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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RYMAN, DANIEL J	
ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/816,242	PECHNER ET AL.	
	Examiner	Art Unit	
	Daniel J. Ryman	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

2. The information disclosure statement filed 7/25/2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Specifically, Examiner has not received a copy of any of the references that are crossed off in the IDS.

Specification

3. Examiner requests that Applicant update the application information seen on page 1, lines 9-23 of the specification in order to reflect any changes in the status of the applications.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamoto et al. (USPN 6,041,062) in view of Shibagaki et al. (USPN 4,704,715) in further view of Doshi et al. (USPN 6,055,242) in further view of Applicant's admitted prior art.

6. Regarding claim 1, Yamoto discloses in an optical fiber communications system, a method, the method comprising: receiving a tributary (low-speed signal) (col. 4, lines 38-54 and col. 5, lines 6-13); recovering data from the tributary (col. 4, lines 38-54 and col. 5, lines 6-13); receiving a reference clock (clock supplier) (col. 4, lines 32-36; col. 5, lines 32-33; and col. 8, lines 48-56); generating at least two low-speed data channels (col. 4, lines 38-54 and col. 5, lines 6-13), where multiplexing STM-0 into high-order STM signals indicates two or more low-speed channels, wherein the low-speed data channels in aggregate contain the recovered data and each low-speed data channel is timed by a clock based on the reference clock (col. 5, lines 32-33 and col. 7, lines 15-34); and multiplexing the low-speed symbol channels to produce an electrical high-speed channel for transmission in optical form across the communications system (Fig. 6; col. 7, lines 15-34; and col. 8, lines 15-23).

Examiner notes that although Yamoto discloses multiplexing the low-speed signals to produce a high-speed signal, Yamoto does not disclose what multiplexing scheme is used. Thus, Yamoto does not expressly disclose modulating each low-speed data channel to generate a corresponding low-speed symbol channel and frequency division multiplexing the low-speed symbol channels to produce a high-speed channel. Shibagaki teaches, in an optical communication system, that it is well known in the art to use a frequency division multiplexing scheme in order to improve the transmission efficiency of the different signals over the optical fiber (col. 1, lines 39-42). In order to use this scheme, Shibagaki teaches modulating the low-speed signals to obtain a low-speed channel located on a particular carrier frequency (Fig. 2 and col. 4, lines 44-56). Thus, it would have been obvious to one of ordinary skill in the art at the time of the

invention to modulate each low-speed data channel to generate a corresponding low-speed symbol channel and to frequency division multiplex the low-speed symbol channels to produce a high-speed channel in order to improve the transmission efficiency of the different signals over the optical fiber.

Yamoto in view of Shibagaki does not expressly disclose that the step of modulating comprises encoding a low-speed channel according to a Reed-Solomon code and interleaving the encoded low-speed channel. Doshi teaches, in an optical transmission system, encoding a channel according to a Reed-Solomon code and interleaving the encoded channel in order to improve error correction (col. 5, lines 35-42). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to encode a low-speed channel according to a Reed-Solomon code and interleave the encoded low-speed channel in order to improve error correction.

Yamoto in view of Shibagaki in further view of Doshi does not expressly disclose receiving a tributary complying with a jitter tolerance. Applicant teaches as prior art that it is well known to specify jitter tolerances in an optical network in order to guarantee end-to-end jitter tolerances (page 3, lines 3-24, esp. page 3, lines 17-24). Yamoto in view of Shibagaki in further view of Doshi teaches that the low-speed signals are received as optical signals (Yamoto: Fig. 8 and col. 9, lines 25-46). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive a tributary complying with a jitter tolerance since it is well known to specify jitter tolerances in an optical network in order to guarantee end-to-end jitter tolerances.

7. Regarding claim 2, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the tributary and the jitter

tolerance conform to a SONET protocol (Yamoto: col. 1, lines 13-18 and Applicant: page 2, lines 20-21).

8. Regarding claim 3, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that each low-speed data channel includes: a frequency header and a data rate which conforms to the SONET protocol (Yamoto: col. 1, lines 13-18 and Applicant: page 2, lines 20-21); and a payload which does not conform to the SONET protocol (VT or VC signal) (Yamoto: col. 4, lines 58-col. 5, line 5 and col. 7, lines 35-50).

9. Regarding claims 4 and 5, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that each low-speed data channel includes: a frequency header and a data rate which conforms to the STS-1 protocol (Yamoto: col. 5, lines 8-10); and a payload which does not conform to the STS-1 protocol (VT or VC signal) (Yamoto: col. 4, lines 58-col. 5, line 5 and col. 7, lines 35-50). Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art does not expressly disclose that the STS-1 signal is an STS-3 signal or an STS-48 signal. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since

Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the STS signal is an STS-1 signal, it would have been obvious to vary the rate of the STS signal to STS-3 or STS-48, absent a showing of criticality by Applicant.

10. Regarding claim 6, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the step of generating the low-speed data channels comprises: recovering a clock from the tributary (Yamoto: col. 2, lines 24-47 and col. 10, lines 33-40); phase aligning the reference clock to the recovered clock (Yamoto: col. 2, lines 24-47 and col. 10, lines 33-40); retiming the recovered data using the phase-aligned reference clock (Yamoto: col. 2, lines 24-47; col. 7, lines 15-34; and col. 10, lines 33-40); and time division demultiplexing the retimed, recovered data into the low-speed data channels (Yamoto: col. 4, lines 38-54; col. 5, lines 6-13; and col. 7, lines 15-34 and Applicant: page 4, lines 12-15 and page 5, lines 6-13) where it is well known to transmit information in TDM fashion (Applicant: page 4, lines 12-15 and page 5, lines 6-13) such that it is obvious to recover the low-speed data channels by demultiplexing the channels.

11. Regarding claim 7, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art, as broadly defined, discloses that the step of time division demultiplexing the recovered data into the low-speed data channels occurs in at least two stages (Yamoto: col. 10, lines 33-40 and Applicant: page 4, lines 12-15 and page 5, lines 6-13) where one stage occurs when the demultiplexer receives the data signal and the second stage occurs when the demultiplexer splits the signal into multiple signals.

12. Regarding claim 8, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses converting the electrical high-speed channel to an optical high-speed channel (Yamoto: col. 8, lines 15-23); transmitting the optical high-speed channel across a fiber (Yamoto: col. 8, lines 15-23); receiving the optical high-speed channel (Yamoto: col. 8, lines 24-34); converting the received optical high-speed channel to a receive-side electrical high-speed channel (Yamoto: col. 8, lines 24-34); frequency division demultiplexing the receive-side electrical high-speed channel into at least two receive-side low-speed symbol channels (Yamoto: col. 8, lines 24-34 and Shibagaki: Fig. 2; col. 1, lines 39-42; and col. 4, lines 44-56); demodulating each receive-side low-speed symbol channel to generate a corresponding receive-side low-speed data channel (Shibagaki: Fig. 2; col. 1, lines 39-42; and col. 4, lines 44-56); recovering a clock and data from each receive-side low-speed data channel (Yamoto: col. 2, lines 24-47 and col. 10, lines 33-40); generating a receive-side reference clock synchronized to the receive-side recovered data (Yamoto: col. 2, lines 24-47; col. 7, lines 15-34; and col. 10, lines 33-40); and generating a receive-side tributary (low-speed signal), wherein the receive-side tributary contains all of the receive-side recovered data, and the receive-side tributary is timed by a clock based on the receive-side reference clock and complies with the jitter tolerance (Yamoto: col. 4, lines 38-54; col. 5, lines 6-13; and col. 7, lines 15-34 and Applicant: page 3, lines 3-24, esp. page 3, lines 17-24).

13. Regarding claim 9, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the tributary, the receive-side

tributary and the jitter tolerance conform to a SONET protocol (Yamoto: col. 1, lines 13-18 and Applicant: page 2, lines 20-21).

14. Regarding claim 10, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art suggests that the step of generating the receive-side tributary comprises: time division multiplexing the receive-side recovered data into the tributary (Yamoto: col. 4, lines 38-54; col. 5, lines 6-13; and col. 7, lines 15-34 and Applicant: page 4, lines 12-15 and page 5, lines 6-13) where it is well known to transmit information in TDM fashion (Applicant: page 4, lines 12-15 and page 5, lines 6-13) such that it is obvious to generate the low-speed signals multiplexing the signals.

15. Regarding claim 11, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art suggests that the step of time division multiplexing the receive-side recovered data into the tributary comprises: storing the recovered data from each receive-side low-speed data channel; aligning a timing for the receive-side low-speed data channels; and time division multiplexing the stored recovered data according to the aligned timing (Applicant: page 4, lines 12-15 and page 5, lines 6-13).

16. Regarding claims 12 and 30, Yamoto discloses in an optical fiber communications system, a method and apparatus, the method comprising the steps of and the apparatus comprising means for: receiving an optical high-speed channel containing data transmitted across the communications system (col. 8, lines 24-34); demultiplexing an electrical high-speed channel, wherein the electrical high-speed channel is derived from the optical high-speed channel, into at least two low-speed symbol channels (col. 8, lines 24-34); recovering data from each low-speed data channel (col. 8, lines 24-34);

generating a reference clock synchronized to the recovered data (col. 2, lines 24-47; col. 7, lines 15-34; and col. 10, lines 33-40); and generating a tributary (transmitted low-speed signal), and the tributary is timed by a clock based on the reference clock (col. 2, lines 24-47; col. 7, lines 15-34; and col. 10, lines 33-40).

Examiner notes that although Yamoto discloses demultiplexing the high-speed signal to produce low-speed signals, Yamoto does not disclose what demultiplexing scheme is used. Thus, Yamoto does not expressly disclose frequency division demultiplexing the electrical high-speed channel into at least two low-speed symbol channels or demodulating each low-speed symbol channel to generate a corresponding low-speed data channel. Shibagaki teaches, in an optical communication system, that it is well known in the art to use a frequency division multiplexing scheme in order to improve the transmission efficiency of the different signals over the optical fiber (col. 1, lines 39-42). In order to use this scheme, Shibagaki teaches modulating the low-speed signals to obtain a low-speed channel located on a particular carrier frequency (Fig. 2 and col. 4, lines 44-56). It is implicit that in order to recover the original signal the reverse process will occur, namely demultiplexing and demodulating. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to demultiplex the electrical high-speed channel into at least two low-speed symbol channels and to demodulate each low-speed symbol channel to generate a corresponding low-speed data channel in order to improve the transmission efficiency of the different signals over the optical fiber.

Yamoto in view of Shibagaki does not expressly disclose that the step of demodulating comprises reversing a Reed-Solomon encoding on a low-speed channel and

de-interleaving the low-speed channel. Doshi teaches, in an optical transmission system, encoding a channel according to a Reed-Solomon code and interleaving the encoded channel in order to improve error correction (col. 5, lines 35-42). It is implicit that in order to recover the original signal the reverse process will occur, namely demultiplexing and demodulating. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to reverse a Reed-Solomon encoding on a low-speed channel and de-interleave the low-speed channel in order to improve error correction.

Yamoto in view of Shibagaki in further view of Doshi does not expressly disclose receiving a tributary complying with a jitter tolerance before said transmission or generating a tributary complying with the jitter tolerance. Applicant teaches as prior art that it is well known to specify jitter tolerances in an optical network in order to guarantee end-to-end jitter tolerances (page 3, lines 3-24, esp. page 3, lines 17-24). Yamoto in view of Shibagaki in further view of Doshi teaches that the low-speed signals are transmitted as optical signals (Yamoto: Fig. 8 and col. 9, lines 25-46) and that the high-speed signal is received as an optical signal (Yamoto: Fig. 8 and col. 8, lines 24-34). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive a tributary complying with a jitter tolerance before said transmission and to generate a tributary complying with the jitter tolerance since it is well known to specify jitter tolerances in an optical network in order to guarantee end-to-end jitter tolerances.

Yamoto in view of Shibagaki in further view of Doshi also does not expressly disclose that the tributary contains all of the recovered data. Applicant teaches as prior art that it is well known to transmit a single signal comprising multiple channels (TDM) for

efficiency purposes (page 4, lines 12-15 and page 5, lines 6-13). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the tributary contain all of the recovered data for efficiency purposes.

17. Regarding claims 13 and 31, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the tributary and the jitter tolerance conform to a SONET protocol (Yamoto: col. 1, lines 13-18 and Applicant: page 2, lines 20-21).

18. Regarding claims 14 and 32, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that each low-speed data channel includes: a framing header and a data rate which conforms to the SONET protocol (Yamoto: col. 1, lines 13-18 and Applicant: page 2, lines 20-21); and a payload which does not conform to the SONET protocol (VT or VC signal) (Yamoto: col. 4, lines 58-col. 5, line 5 and col. 7, lines 35-50).

19. Regarding claims 15, 16, 33, and 34, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that each low-speed data channel includes: a frequency header and a data rate which conforms to the STS-1 protocol (Yamoto: col. 5, lines 8-10); and a payload which does not conform to the STS-1 protocol (VT or VC signal) (Yamoto: col. 4, lines 58-col. 5, line 5 and col. 7, lines 35-50). Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art does not expressly disclose that the STS-1 signal is an STS-3 signal or an STS-48 signal. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is

on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the STS signal is an STS-1 signal, it would have been obvious to vary the rate of the STS signal to STS-3 or STS-48, absent a showing of criticality by Applicant.

20. Regarding claim 17, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the step of generating the tributary comprises: time division multiplexing the recovered data into the tributary (Applicant: page 4, lines 12-15 and page 5, lines 6-13).

21. Regarding claims 18 and 35, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art, as broadly defined, discloses that the step of time division multiplexing the recovered data into the tributary occurs in at least two stages (Applicant: page 4, lines 12-15 and page 5, lines 6-13) where one stage occurs when the multiplexer receives the clock signal and the data signal and the second stage occurs when the multiplexer combines the clock signal and the data signal.

22. Regarding claims 19 and 36, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art suggests that the step of time division multiplexing the recovered data into the tributary comprises: storing the recovered data from each low-speed data channel (Applicant: page 4, lines 12-15 and

page 5, lines 6-13); aligning a timing for the low-speed data channels (Applicant: page 4, lines 12-15 and page 5, lines 6-13); and time division multiplexing the stored recovered data according to the aligned timing (Applicant: page 4, lines 12-15 and page 5, lines 6-13).

23. Regarding claim 20, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses that the step of aligning a timing for the low-speed data channels comprises: generating a framing pulse for each low-speed data channel; and aligning the framing pulses (Yamoto: col. 8, lines 48-56 and col. 10, lines 33-47 and Applicant: page 4, lines 12-15 and page 5, lines 6-13).

24. Regarding claim 21, incorporating the rejection of claim 1, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses each limitation in this claim, as outlined in claim 1 above, except having a time division demultiplexer coupled to the clock and data recovery circuitry for time division demultiplexing the recovered data into at least two low-speed data channels. Applicant teaches as prior art that it is well known to transmit a single signal comprising multiple channels (TDM) for efficiency purposes (page 4, lines 12-15 and page 5, lines 6-13). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a time division demultiplexer coupled to the clock and data recovery circuitry for time division demultiplexing the recovered data into at least two low-speed data channels in order to recover the individual channels contained in a TDM stream.

25. Regarding claims 22-25, incorporating the rejection of claims 2-5, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior

art discloses each limitation in claims 22-25, as outlined, respectively, in claims 2-5 above.

26. Regarding claims 26-28, incorporating the rejection of claims 7-9, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses each limitation in claims 26-28, as outlined, respectively, in claims 7-9 above.

27. Regarding claim 29, incorporating the rejection of claim 11, Yamoto in view of Shibagaki in further view of Doshi in further view of Applicant's admitted prior art discloses each limitation in claim 29, as outlined, respectively, in claim 11 above.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Taylor (USPN 5,938,309) see entire document which pertains to a WDM system containing modulators.

29. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
DJR Examiner
Art Unit 2665

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600